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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/646,790 | 09/21/2000 | Jan Slomianny | 200-19 | 1128 |

7590 01/10/2005
J. Rodman Steele Jr.
Akerman Senterfitt
Post Office Box 3188
West Palm Beach, FL 33402-3188

EXAMINER

BROOKE, MICHAEL S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/646,790

Applicant(s)

SLOMIANNY ET AL.

Examiner

Michael S. Brooke

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-23 is/are pending in the application.
- 4a) Of the above claim(s) 16, 17 and 23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-15 and 18-22 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of species 1 in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 16, 17, and 23 are directed to non-elected species II and III, accordingly, claims 16, 17, and 23 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 10/29/2004 have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(a)(6) states that no amendment may introduce new matter into the disclosure of an application. The original disclosure does not support the showing of the print head 44 connects to bottle 38 as illustrated by the proposed Figure 2.

Specification

The abstract of the disclosure is objected to because in line 6, the word "taken" is not correct. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-11, 14, 15, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cruz-Urbe et al (US 4,342,042) in view of Yoshimura et al (US 6,019,461) and Childers et al (US 6,375,301).

Cruz-Urbe et al discloses the following features of the claimed invention:

- A computer (see the control system illustrate in Figure 2) for controlling an operational process of the printer
- At least one reservoir bottle (1)
- An intermediate container (10)
- A suction pipe (between 1 and 2) and a pump (2)
- A sensor arrangement (14) that measures the amount of ink depleted from the intermediate container. Since the reservoir bottle and the intermediate container are fluidically interconnected, measuring the amount of ink that is depleted from the intermediate container would also be measuring the amount of ink that is

depleted from the reservoir. Since the intermediate container would still contain ink after the reservoir bottle has become empty, the printer can continue to run for a period of time determined by the size of the intermediate container (col. 3:65-68 and col. 4:1-5). It would be obvious to one of ordinary skill in the art, at the time the invention was made, to have provided an intermediate container having a sufficient size to allow printing to continue during the changing of the ink reservoir bottle, in order to maintain printing speed and eliminate the wasting of resources caused by partially printing a page. Furthermore, Cruz-Urbe discloses that any type of ink level detection system may be used to monitor the ink level in the intermediate container

However, Cruz-Urbe et al does not disclose the following:

- The reservoir bottle is exchangeable
- An externally visible label provided on the reservoir bottle that carries coded information about the fluid contained in the reservoir bottle
- Means for feeding the label information into the computer when the reservoir bottle is inserted into the printer
- A test program provided in the computer that checks the label information and that only allows normal operation when at least one selected test criterion is acceptable
- The computer has a time unit that produces an internal date and this internal date is compared with the date indicated on the label

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- The computer has a memory in which the information from the label is stored
- Means are provided to delete the information stored in the memory when new reservoir bottle is inserted into the printer.
- The computer compares the quantity of fluid drawn from the reservoir bottle with the previously known quantity of fluid.

Nevertheless, Yoshimura et al discloses the following:

- A reservoir container (3) is exchangeable (column 1, lines 15-16; column 2, line 56)
- An element (4) provided on the reservoir container that carries coded information about the fluid contained in the reservoir container
- Means (4b) for feeding information into the computer (5) when the reservoir container (3) is inserted into the printer
- A test program provided in the computer (5) that checks the information and that only allows normal operation when at least one selected test criterion is acceptable (column 3, lines 4-23)
- The computer has a time unit that produces an internal date and this internal date is compared with the date indicated on the coded information element (column 4, lines 44-50)
- The computer has a memory in which the information from the information-coded element is stored (column 3, lines 39-42).
- The computer maintains a count of the number of drops that are ejected during printing and compares this amount with the maximum number of drops that can

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be printed using the ink cartridge (col. 6:7-15, 66-67 and col. 7:1-11). When the ink is about to run out, a signal is generated to notify the user of the cartridge condition. Thus, the user is able to replace the depleted cartridge before beginning a new print job.

While, Childers et al discloses the following:

- Various equivalent types of elements carrying coded information including the externally visible label such as a bar code (column 1, lines 24-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the reservoir bottle of Cruz-Urbe et al with the aforementioned features taught by Yoshimura et al for the purposes of continually providing ink to the print head and preventing the users from using the wrong cartridge having unsuitable ink quality.

In addition, because externally visible label such as a bar code was art-recognized equivalent for element carrying coded information at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the element carrying coded information of Yoshimura et al with the externally visible label as discloses by Childers et al for the purpose of storing information about the container from which the element or the label is attached therefrom.

Please note that functions and characteristics of the aforementioned claimed elements are clearly described in the references.

Claims 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cruz-Uribe et al, Yoshimura et al, and Childers et al as applied to claims 9-11, 14, 15, 18-20 above, and further in view of Duffield et al (US 4,432,005).

Cruz-Uribe et al as modified discloses all basic elements of the claimed invention and further include the following:

- The intermediate container (10) having a volume of about 6.5 ml (Cruz-Uribe et al; column 5, lines 46-48).

However, Cruz-Uribe et al as modified does not disclose the following:

- The volume of the reservoir bottle being more than six or ten times the volume of the intermediate container.

Nevertheless, Duffield et al discloses the following:

- A volume of a reservoir container (14c) having 100 cubic centimeters of ink which is more than six or ten times the volume of the intermediate container.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the reservoir container with the volume of more than six

or ten times the volume of the intermediate container as taught by Duffield et al in the teaching of Cruz-Urbe et al for the purpose of operating the printer for an acceptable period without replenishing the ink supply.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cruz-Urbe et al in view of Yoshimura et al, Childers et al, and Moriyama et al (US 6,050,680).

Cruz-Urbe et al discloses the following features of the claimed invention:

- A computer (see the control system illustrate in Figure 2) for controlling an operational process of the printer
- At least one reservoir bottle (1)
- An intermediate container (10)
- A suction pipe (between 1 and 2) and a pump (2)
- A sensor arrangement (14) that measures the amount of ink depleted from the intermediate container. Since the reservoir bottle and the intermediate container are fluidically interconnected, measuring the amount of ink that is depleted from the intermediate container would also be measuring the amount of ink that is depleted from the reservoir. Since the intermediate container would still contain ink after the reservoir bottle has become empty, the printer can continue to run for a period of time determined by the size of the intermediate container. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide an intermediate container having a sufficient size to allow

printing to continue during the changing of the ink reservoir bottle, in order to maintain printing speed and eliminate the wasting of resources caused by partially printing a page. Furthermore, Cruz-Urbe discloses that any type of ink level detection system may be used to monitor the ink level in the intermediate container

However, Cruz-Urbe et al does not disclose the followings:

- The reservoir bottle is exchangeable
- An externally visible label provided on the reservoir bottle that carries coded information about the fluid contained in the reservoir bottle
- Means for feeding the label information into the computer when the reservoir bottle is inserted into the printer
- A test program provided in the computer that checks the label information and that only allows normal operation when at least one selected test criterion is acceptable
- The computer has a time unit that produces an internal date and this internal date is compared with the date indicated on the label
- The computer has a memory in which the information from the label is stored
- Means are provided to delete the information stored in the memory when new reservoir bottle is inserted into the printer
- There are two exchangeable reservoirs bottles, one is filled with solvent and the other is filled with pigment.

- The computer maintains a count of the number of drops that are ejected during printing and compares this amount with the maximum number of drops that can be printed using the ink cartridge (col. 6:7-15, 66-67 and col. 7:1-11). When the ink is about to run out, a signal is generated to notify the user of the cartridge condition. Thus, the user is able to replace the depleted cartridge before beginning a new print job.

Nevertheless, Yoshimura et al discloses the followings:

- A reservoir container (3) is exchangeable (column 1, lines 15-16; column 2, line 56)
- An element (4) provided on the reservoir container that carries coded information about the fluid contained in the reservoir container
- Means (4b) for feeding information into the computer (5) when the reservoir container (3) is inserted into the printer
- A test program provided in the computer (5) that checks the information and that only allows normal operation when at least one selected test criterion is acceptable (column 3, lines 4-23)
- The computer has a time unit that produces an internal date and this internal date is compared with the date indicated on the coded information element (column 4, lines 44-50)
- The computer has a memory in which the information from the information-coded element is stored (column 3, lines 39-42).

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While, Childers et al discloses the following:

- Various equivalent types of elements carrying coded information including the externally visible label such as a bar code (column 1, lines 24-27).

And, Moriyama et al discloses the following:

- Two exchangeable reservoir containers, one (60) is filled with solvent and the other (6) is filled with pigment.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the reservoir bottle of Cruz-Urbe et al with the aforementioned features taught by Yoshimura et al for the purposes of continually providing ink to the print head and preventing the users from using the wrong cartridge having unsuitable ink quality.

In addition, because externally visible label such as a bar code was art-recognized equivalent for element carrying coded information at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the element carrying coded information of Yoshimura et al with the externally visible label as discloses by Childers et al for the purpose of storing information about the container from which the element or the label is attached therefrom.

Furthermore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the ink supply of Cruz-Urbe et al be provided with two reservoir containers as taught by Moriyama et al the purposes of providing a mixture of ink for selective ejection.

Response to Arguments

Applicant's arguments filed 10/29/04 have been fully considered but they are not persuasive.

Drawings

The Applicant has failed to correct all of the drawing objections. The original disclosure does not support the print head (44) being connected to the bottle 938), as illustrated by the proposed figure 2. The feature should be deleted.

Art Rejections

The Applicant's argument that Cruz-Urbe does not teach detecting the quantity of fluid in the primary container is not persuasive. Cruz teaches directly measuring the ink level of the intermediate container. The initial amount of ink in the primary container is a known quantity. Since the primary and intermediate containers are fluidically connected, when an amount of ink in the intermediate container is consumed, that amount of ink will be supplied from the primary container. Thus, measuring the ink consumption of the intermediate container also provides a measurement of the ink level of the primary container.

The Applicants argument that Childers does not teach the use of a bar code for storing ink parameters used as test criteria to determine if the ink is suitable for the printer is not persuasive. Childers teaches that the use of a bar code on an ink cartridge and the use of a ROM on an ink cartridge are art recognized equivalents for storing information relating to control parameters of the printer. Information relating to whether the ink is suitable for the printer is certainly a control parameter. Thus, the claimed limitation is met.

The Applicant's argument that none of the prior art teaches the use of two exchangeable bottles, each being filled with different fluid is not persuasive. First this feature is not claimed in claim 20, as stated by the Applicant. In fact, the Examiner does not see where this specific limitation is recited. Rather, it appears that the Applicant is referring to claim 22, which recites a solvent and a pigment. The Applicant has not provided any arguments why the prior art of record does not teach this feature; therefore, the claimed limitation is met.

The Applicant's argument that none of the prior art teaches running the printer after a reservoir bottle empty signal for a sufficient period of time to allow the reservoir bottle to be exchanged is not persuasive. In support of this position, the Applicant alleges that "Cruz-Urbe can run the printer for a short period of time after the primary ink container is empty, but the intermediate container in Cruz-Urbe is very small, and the level in the intermediate container is already depleted before the printer notes that the primary container is empty." The Examiner does not agree with the Applicant's conclusions. Uribe teaches that the intermediate container supplies ink to the print

head at a static pressure (col. 2:25-26). This means that the fluid level in the intermediate container is keep at a constant level. When the ink supply (which is the primary container is depleted) is depleted, the printer continues to operate fro a period of time dictated by the volume of the intermediate container (col. 3:65-68 and col. 4:1-5). Thus, the printer does not necessarily run for only a short period of time. Furthermore, how much time is needed to change the cartridge? Typically, a short period of time is needed. As discussed above, it would be within the ordinary level of skill in the art to provide an intermediate container having a size that is sufficient to allow printing to continue while the ink reservoir bottle is exchanged.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Brooke whose telephone number is 571 272-2142. The examiner can normally be reached on M-F 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael S. Brooke
Primary Examiner
Art Unit 2853

MSB
01/05/04